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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/347,034	07/02/1999	MARK ALBERT	CISCP521	3170
5073	7590 01/20/2004		EXAMINER	
BAKER BOTTS L.L.P. 2001 ROSS AVENUE			BURGESS, BARBARA N	
SUITE 600	VENUE		ART UNIT	PAPER NUMBER
DALLAS, TX 75201-2980			2157	19
-	•		DATE MAILED: 01/20/2004	· · · · · · ·

Please find below and/or attached an Office communication concerning this application or proceeding.

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	Application No.	Applicant(s)	- d
	09/347,034	ALBERT ET AL.	
Office Action Summary	Examiner	Art Unit	
	Barbara N Burgess	2157	
The MAILING DATE of this communication app Period for Reply	pears on the cover sheet wi	th the correspondence address	<b>;</b>
A SHORTENED STATUTORY PERIOD FOR REPL THE MAILING DATE OF THIS COMMUNICATION.  - Extensions of time may be available under the provisions of 37 CFR 1.1 after SIX (6) MONTHS from the mailing date of this communication.  - If the period for reply specified above is less than thirty (30) days, a repl - If NO period for reply is specified above, the maximum statutory period - Failure to reply within the set or extended period for reply will, by statute - Any reply received by the Office later than three months after the mailin earned patent term adjustment. See 37 CFR 1.704(b).  Status  1) Responsive to communication(s) filed on 22 C	136(a). In no event, however, may a really within the statutory minimum of thirt will apply and will expire SIX (6) MON e, cause the application to become AB ag date of this communication, even if the state of the	eply be timely filed  y (30) days will be considered timely.  THS from the mailing date of this commun  ANDONED (35 U.S.C. § 133).	ication.
	s action is non-final.		
Since this application is in condition for alloward closed in accordance with the practice under the second s	ance except for formal matt		its is
Disposition of Claims			
4a) Of the above claim(s) is/are withdra 5) ☐ Claim(s) is/are allowed. 6) ☐ Claim(s) <u>1-15 and 17-85</u> is/are rejected. 7) ☐ Claim(s) is/are objected to. 8) ☐ Claim(s) are subject to restriction and/o			
Application Papers			
9) The specification is objected to by the Examine 10) The drawing(s) filed on is/are: a) accomposed and applicant may not request that any objection to the Replacement drawing sheet(s) including the correct should be considered as a composed and the correct should be considered as a composed and should be considered as a composed as a composed and should be considered as a composed as	cepted or b) objected to drawing(s) be held in abeyant ction is required if the drawing(	ice. See 37 CFR 1.85(a). (s) is objected to. See 37 CFR 1.	• •
12) Acknowledgment is made of a claim for foreign a) All b) Some * c) None of:  1. Certified copies of the priority document 2. Certified copies of the priority document 3. Copies of the certified copies of the priority document application from the International Burea * See the attached detailed Office action for a list 13) Acknowledgment is made of a claim for domest since a specific reference was included in the firm 37 CFR 1.78.  a) The translation of the foreign language pro 14) Acknowledgment is made of a claim for domest reference was included in the first sentence of the content of the foreign language pro 14).	ts have been received. Its have been received in A prity documents have been us (PCT Rule 17.2(a)). It of the certified copies not the priority under 35 U.S.C. and sentence of the specification with the control of the specification ovisional application has bestic priority under 35 U.S.C.	pplication No received in this National Stagereceived. § 119(e) (to a provisional applation or in an Application Datable received. §§ 120 and/or 121 since a spe	lication) Sheet.
Attachment(s)			
Notice of References Cited (PTO-892) Notice of Draftsperson's Patent Drawing Review (PTO-948) Information Disclosure Statement(s) (PTO-1449) Paper No(s)	5) Notice of Ir	ummary (PTO-413) Paper No(s) formal Patent Application (PTO-152)	

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#### **DETAILED ACTION**

This Office Action is in response to amendments filed October 22, 2003. Claims 1-15 and 17-85 are presented for further examination.

## Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1, 3, 11, 17, 19, 36, 38-41, 47, 48-49, 57, 63, 65, 82, 84-85 are rejected under 35 U.S.C. 102(e) as being anticipated by Urano et al. (hereinafter "Urano", 6,434,616).

As per claims 1, 48, and 84, Urano discloses a method for providing a network service comprising:

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- Receiving instructions from a service manager at a forwarding agent, the instructions indicating how packets received by the forwarding agent are to be processed (column 3, lines 15-18);
- Processing the packets received at the forwarding agent according to the instructions (column 4, lines 36-48, 63-65);
- Forwarding selected packets from the forwarding agent to the service manager in response to the instructions, wherein the instructions provided by the service manager are associated with a selected one of a group consisting of:

A routing operation;

A load balancing operation;

A packet modification operation;

A tunneling operation;

A tag switching operation (column 4, lines 35-48, 57-65, column 5, lines 19-21, 25-26, 39-44, 59-67, column 6, linesv1-4, 42-47, 59-67).

As per claims 3, 17, 19, 36, 49, 63, 65, 82, 85, Urano discloses a method for providing a network service, comprising:

Receiving packet interest instructions from a service manager at a forwarding agent,
 the instructions specifying packets that the forwarding agent is to communicate to
 the service manager (column 4, lines 36-39, 43-45);

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 receiving an initial packet at a forwarding agent that matches one of the packets specified in the packet interest instructions from the service manager (column 3, lines 22-28, column 4, lines 11-14);

• Communicating the initial packet from the forwarding agent to the service manager so that the packet may be processed at the service manager to determine one or more actions that are to be performed for the packet, wherein the instructions provided by the service manager are associated with a selected one of a group consisting of:

A routing operation;

A load balancing operation;

A packet modification operation;

A tunneling operation;

A tag switching operation (column 4, lines 35-48, 57-65, column 5, lines 19-21, 25-26, 39-44, 59-67, column 6, lines 1-4, 42-47, 59-67).

As per claims 11 and 57, Urano discloses the method of claim 3, further comprising:

 Forwarding the packet from the service manager to a destination other than the forwarding agent, the destination being determined by the service manager (column 4, lines 53, 63-64).

As per claim 38, Urano discloses:

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- a service manager receiving interface for receiving instructions from a service manager specifying actions to be performed for server designated packets (column 3, lines 15-18);
- a service manager sending interface for sending packets to the service manager (column 4, lines 63-64, column 5, lines 19-21, 25-26);
- A network packet receiving interface for receiving internet protocol (IP) packets from a network (column 3, lines 22-28, column 4, lines 11-14);
- a network packet forwarding interface for forwarding IP packets to the network
   (column 4, lines 63-64, column 5, lines 19-21, 25-26);
- A processor for performing the specified actions on the server designated packets wherein the instructions provided by the service manager are associated with a selected one of a group consisting of:

A routing operation;

A load balancing operation;

A packet modification operation;

A tunneling operation;

A tag switching operation (column 4, lines 35-48, 57-65, column 5, lines 19-21, 25-26, 39-44, 59-67, column 6, lines 1-4, 42-47, 59-67).

As per claim 39, Urano discloses:

 Service manager instruction storage element for storing the service manager instructions (column 3, lines 24-28).

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As per claim 40, Urano discloses:

Service manager instruction storage element includes a general instruction storage
that stores criteria for forwarding packets to the service manager and a specific
instruction storage that stores specific instructions for handling the server designated
packets (column 3, lines 24-28).

As per claim 41, Urano discloses:

a comparator for comparing portions of newly received packets to the stored criteria
 (column 3, lines 22-28, column 4, lines 11-14).

As per claim 47, Urano discloses:

 the service manager receiving interface and the network packet receiving interface are the same interface (column 3, lines 30-32).

## Claim Rejections - 35 USC § 103

- 3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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4. Claims 2, 16, and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urano et al. (hereinafter "Urano", 6,434,616) in view of Arai.

As per claim 2, Urano does not explicitly disclose the forwarding agent forwards the selected packets to the service manager using UDP. However, the use and advantages for using this protocol is well known to one skilled in the relevant art at the time the invention was made as evidenced by the teachings of Arai (column 12, lines 3-7).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate using UDP in Urano's method allowing a direct way to send information over a network.

5. Claims 4, 6, 10, 16, 50, 52, 56, 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urano et al. (hereinafter "Urano", 6,434,616) in view of Kawagoe et al. (hereinafter "Kawagoe", 5,961,595).

As per claims 4 and 50, Urano does not explicitly disclose receiving packet handling instructions from the service manager at the forwarding agent that include the actions determined by the service manager for the packet. However, in an analogous art, Kawagoe discloses the agent modifying data as a result the operation request issued by the manager (column 6, lines 25-39).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate receiving packet handling instructions in Urano's method in order for the agent to determine the necessity of modifying the managed instance or send the data, as is, to the requesting manager.

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As per claims 6 and 52, Urano discloses:

- Receiving the initial packet from the service manager at the forwarding agent along with the packet handling instructions (column 4, lines 36-39, 43-45);
- Handling the packet at the forwarding agent according to the packet handling instructions (column 4, lines 63-64, column 5, lines 19-21, 25-26).

As per claims 10 and 56, Urano discloses:

- receiving a subsequent packet at the forwarding agent (column 4, lines 36-39, 43-45);
- determining that the subsequent packet matches a criteria included in the packet handling instructions (column 3, lines 22-28, column 4, lines 11-14);
- Handling the subsequent packet at the forwarding agent according to the packet handling instructions (column 4, lines 63-64, column 5, lines 19-21, 25-26).
- 6. Claims 12, 34-35, 37, 58, 80-81, 83 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urano et al. (hereinafter "Urano", 6,434,616) in view of DeNap et al. (hereinafter "DeNap", 6,407,997).

Urano does not explicitly disclose forwarding the packet from the service manager to a destination other than the forwarding agent includes translating the destination IP address in the packet. However, the use and advantages for translating the IP address

is well known to one skilled in the relevant art at the time the invention was made as evidenced by DeNap (column 9, lines 27-29).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate translating the IP address in Urano's method in order for packets to be forwarded to a destination different from the destination IP address originally stored in the packet header.

7. Claims 13 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urano et al. (hereinafter "Urano", 6,434,616) in view of Furuichi.

Urano does not explicitly disclose forwarding the packet from the service manager to a destination other than the forwarding agent includes communicating the packet to the destination using tag switching. However, in an analogous art, Furuichi discloses the use of tag switching as a way of sending packets to a specified destination (column 1, lines 23, 30-35).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate tag switching in Urano's method in order for packets to cut through the switch so that packets bypass the controller and travel at hardware speed.

8. Claims 14 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urano et al. (hereinafter "Urano", 6,434,616) in view of Blahut et al. (hereinafter "Blahut", 6,065,061).

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Urano does not explicitly disclose forwarding the packet from the service manager to a destination other than the forwarding agent includes communicating the packet to the destination using IP tunneling. However, in an analogous art, Blahut discloses the use of IP tunneling (column 5, lines 12-16).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate the use of IP tunneling in Urano's method in order to reroute any downstream traffic to a specific destination.

9. Claims 15, 43, and 61-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urano et al. (hereinafter "Urano", 6,434,616) in view of Kimball et al. (hereinafter "Kimball", US 2002/0126622).

Urano does not explicitly disclose the forwarding agent is implemented on a selected one of a group consisting of a switch, a load balancer, and a router. However, the use and advantages for implementing an agent on a router is well known to one skilled in the relevant art at the time the invention was made as evidenced by Kimball (paragraph [0035]).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement a router, switch, and load balancer agent in Urano's method in order to track the events that occur during router execution and allow the agent to send alerts when an error is detected.

10. Claims 18 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urano et al. (hereinafter "Urano", 6,434,616) in view of Subramaniam et al. (hereinafter "Subramaniam", 6,070,187).

Urano does not explicitly disclose receiving unicast packet handling instructions from the service manager at the forwarding agent that include the actions determined by the service manager for the packet. However, in an analogous art, Subramaniam discloses a unicast packet received by a specific node (column 3, lines 57-60).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate the use of a unicast packet handling instruction in Urano's method in order for a specific agent to take action on a packet according to the request of the service manager.

11. Claims 20 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urano et al. (hereinafter "Urano", 6,434,616) in view of Arai.

Urano does not explicitly disclose specifying packets that the forwarding agent is instructed to communicate to the service manager includes receiving a UDP packet at the forwarding agent. However, the use and advantages for using this protocol is well known to one skilled in the relevant art at the time the invention was made as evidenced by the teachings of Arai (column 12, lines 3-7).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate using UDP in Urano's method allowing a direct way to send information over a network.

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12. Claims 21-33, 42, 44-46, 67-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urano et al. (hereinafter "Urano", 6,434,616) in view of Flanders et al. (hereinafter "Flanders", 6,172,980).

As per claims 21, 42, 45, 67, Urano does not explicitly disclose receiving packet interest instructions from the service manager at a forwarding agent includes receiving a wildcard affinity at the forwarding agent that identifies one or more flows to be received by the forwarding agent. However, in an analogous art, Flanders teaches packets having flow (wildcard affinity) ID's with associated quality of service parameters (column 6, lines 62-67, column 7, lines 1-2).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate the use of wildcard affinity in Urano's method in order for a packet to be transmitted according to specific quality of service parameters set forth by the service manager.

As per claims 22, 24-31, 44, 46, 68, 70-77, Urano does not explicitly disclose the wildcard affinity include a selected one or more of a group consisting of: source IP address(es), a destination IP address(es), a source port number(s) and a destination port number(s). However, in an analogous art, Flanders teaches these IP address and port numbers (column 3, lines 58-59, column 5, lines 17-18, column 16, lines 24-25, column 10, lines 16-17).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate wildcard affinity including a source IP address, a destination IP address, a source port number and a destination port number in Urano's method allowing the agent to determine where the packet should be sent according to the wildcard affinity.

As per claims 23 and 69, Urano does not explicitly disclose the wildcard affinity includes a protocol identifier. However, in an analogous art, Flanders teaches the use of a protocol identifier (column 10, lines 16-17).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate wildcard affinity including a protocol identifier in Urano's method in order for the agent to determine the protocol under which the wildcard affinity was transmitted and the protocol in which to send the packets received.

As per claims 32-33 and 78-79, Urano does not explicitly disclose the use of a netmask element when specifying IP addresses. However, in an analogous art, Flanders teaches the use of a mask (column 7, lines 52-54).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate the use of netmasks in Urano's method in order to filter out certain IP addresses.

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13. Claims 5 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urano et al. (hereinafter "Urano", 6,434,616) in view Kawagoe et al. (hereinafter "Kawagoe", 5,961,595) and in further view of Arai.

As per claims 5 and 51, Urano, in view of Kawagoe, does not explicitly disclose the receiving packet handling instructions from the service manager at the forwarding agent that include the actions determined by the service manager for the packet includes receiving a user datagram protocol (UDP) packet at the forwarding agent. However, the use and advantages for using this protocol is well known to one skilled in the relevant art at the time the invention was made as evidenced by the teachings of Arai (column 12, lines 3-7).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate using UDP in Urano's method allowing a direct way to send information over a network.

14. Claims 7 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urano et al. (hereinafter "Urano", 6,434,616) in view Kawagoe et al. (hereinafter "Kawagoe", 5,961,595) and in further view of DeNap et al. (hereinafter "DeNap", 6,407,997).

As per claims 7 and 53, Urano, in view of Kawagoe does not explicitly disclose handling the packet at the forwarding agent according to the packet handling instructions includes translating the destination internet protocol (IP) address in the packet so that the packet is forwarded to a different IP address than the IP address

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originally included in a packet header. However, the use and advantages for translating the IP address is well known to one skilled in the relevant art at the time the invention was made as evidenced by DeNap (column 9, lines 27-29).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate translating the IP address in Urano's method in order for packets to be forwarded to a destination different from the destination IP address originally stored in the packet header.

15. Claims 8 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urano et al. (hereinafter "Urano", 6,434,616) in view Kawagoe et al. (hereinafter "Kawagoe", 5,961,595) and in further view of Furuichi.

As per claims 8 and 54, Urano, in view of Kawagoe, does not explicitly disclose handling the packet at the forwarding agent according to the packet handling instructions includes communicating the packet to a destination specified in the packet handling instructions using tag switching. However, in an analogous art, Furuichi discloses the use of tag switching as a way of sending packets to a specified destination (column 1, lines 23, 30-35).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate tag switching in Urano's method in order for packets to cut through the switch so that packets bypass the controller and travel at hardware speed.

16. Claims 9 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urano et al. (hereinafter "Urano", 6,434,616) in view Kawagoe et al. (hereinafter "Kawagoe", 5,961,595) and in further view of Blahut et al. (hereinafter "Blahut", 6,065,061).

As per claims 9 and 55, Urano, in view of Kawagoe, does not explicitly disclose handling the packet at the forwarding agent according to the packet handling instructions includes communicating the packet to a destination specified in the packet handling using IP tunneling. However, in an analogous art, Blahut discloses the use of IP tunneling (column 5, lines 12-16).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate the use of IP tunneling in Urano's method in order to reroute any downstream traffic to a specific destination.

### Response to Arguments

#### The Office notes the following arguments:

- (a) Applicant is perplexed by the appearance of Urano, as attorneys for Applicant and Examiner Burgess discussed how Urano is clearly distinguishable from the pending claims.
- (b) How any of this disclosure from Urano, in any way, anticipates the teachings of any of the pending claims is unclear.
- (c) Applicant is at loss as to how anything having to do with keeping track of log information or ensuring the validity of log information relates to the forwarding agent and

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service manager discloses by the above-identified claims. "Log" is defined as a record, as of the performance of a machine. Applicant reminds Examiner that such a definition truly reveals how remote Urano is to the patentability of pending claims

#### In response to:

(a) Applicant's arguments filed have been fully considered but they are not persuasive.

Again, as previously stated, as for the telephone interview between applicant's attorney and examiner, the examiner does not recall any agreements made to the distinctiveness of the claims to the references used. There was no resolution made that claims 1-15 and 17-85 are patentably distinct from the references. The references are appropriate and relevant to the claimed invention as set out in this office action.

(b) To clarify the disclosure from Urano and how it anticipates the teachings of the pending claims, Examiner takes this opportunity discuss each step of amended independent claims 1, 3, 38, 48, and 49.

"Receiving instructions from a service manager at a forwarding agent, the instructions indicating how packets received by the forwarding agent are to be processed"- Urano discloses the manager computer (service manager) sending information/rules (instructions) to the agent computers (forwarding agent) on the types of log (packets) to collect. These rules (instructions) indicate how to handle (process) logs (packets) based on their importance.

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"Processing the packets received at the forwarding agent according to the instructions"- Urano further discloses rules (instructions) indicating how the logs (packets) should be handled (processed). Handling (processing) the logs (packets) include determining which logs (packets) are important and sending those logs (packets) to the manager computer (service manager).

"Forwarding selected packets from the forwarding agent to the service manager in response to the instructions, wherein the instructions provided by the service manager are associated with a selected one of a group consisting of: routing operation, a load balancing operation, a packet modification operation, a tunneling operation, and a tag switching operation"- Urano discloses sending (forwarding) the important (selected) logs (packets) to the manager computer (service manager) based on the rules (instructions) given. The rules (instructions) instruct the agents (forwarding agents) on which log (packets) to send (forward) and where to send (forward) the selected logs (packets). This is associated with a routing operation.

(c) Examiner notes that the definition of a packet is a piece of data or information that is transmitted over a network. According to Urano, a "log" is a piece of data that is transmitted over a network. Urano specifically discloses each computer having a network control unit, which controls transfer of data to or from a communication line or a local area network. Also, Urano discloses the important logs sent to the manager computer over the network. So, indeed, logs are considered packets.

#### Conclusion

17. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara N Burgess whose telephone number is (703) 305-3366. The examiner can normally be reached on M-F (8:00am-4:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Ettinene can be reached on (703) 308-7562. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

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ARIO ETIENNE
SUPSPISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100